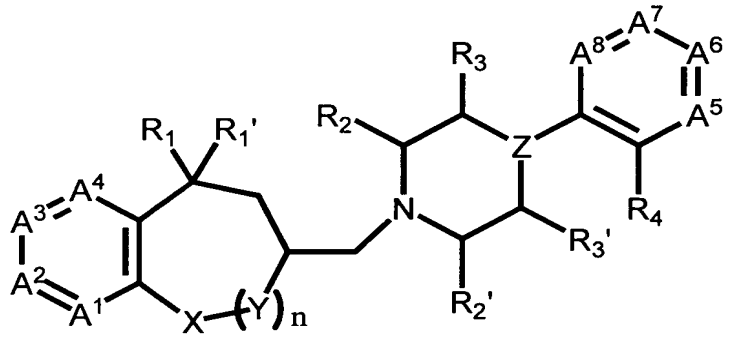
AMENDMENTS TO THE CLAIMS

Please cancel Claims 1-29 without prejudice and insert therefore new Claims 30-48. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-29 (canceled)

30. (New) A compound of the formula I:



I

wherein:

A^1, A^2, A^3 and A^4 each independently represent -C(R_5)- or -N-, provided that at least one of A^1, A^2, A^3 and A^4 is -N-;

A^5, A^6, A^7 and A^8 each independently represent -C(R_6)- or -N-;

R_1 and R_1' each independently represent a hydrogen atom, a halogen atom, a hydroxyl group, a cyano group, a C_{1-6} alkyloxy group, a C_{1-6} alkyloxyalkyloxy group, a C_{1-6} alkyloxycarbonyl group, a C_{1-6} alkyloxycarbonylamino group, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkylcarbonyloxy group, a C_{1-6} alkylcarbonylamino group, a C_{1-6} alkylsulfonyl group, a C_{1-6} alkylsulfonylamino group, a C_{1-6} alkylsulfonyl-C_{1-6} alkylamino group, a carbamoylamino group, a (C_{1-6} alkyl)carbamoylamino group, a di(C_{1-6} alkyl)carbamoylamino group, a pyrazolyl group, a triazolyl group, an oxazolyl group, or a C_{1-6} alkyl group optionally having a substituent selected from the following group α; or R_1 and R_1' together form an oxo group or a C_{1-3} alkyleneketal group;

R_2 represents a hydrogen atom or a C_{1-6} alkyl group optionally having a hydroxyl group, or R_2 and R_2' or R_3' together form a C_{1-3} alkylene group or an oxy-C_{1-3} alkylene group;

R_2' represents a hydrogen atom or a C_{1-6} alkyl group optionally having a hydroxyl group, or R_2' and R_2 or R_3 together form a C_{1-3} alkylene group or an oxy-C_{1-3} alkylene group;

R_3 represents a hydrogen atom, a hydroxyl group, a halogen atom, a C_{1-6} alkyloxy group, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkyloxycarbonyl group, a C_{1-6} alkylsulfonyl group, a C_{1-6} alkylsulfonylamino group, a C_{1-6} alkylsulfonylalkylamino group, a cyano group, or a C_{1-6} alkyl group optionally having a substituent selected from the group α; or R_3 and R_3' or R_2' together form a C_{1-3} alkylene group or an oxy-C_{1-3} alkylene group;

R_3' represents a hydrogen atom, a hydroxyl group, a halogen atom, a C_{1-6} alkyloxy group, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkyloxycarbonyl group, a C_{1-6} alkylsulfonyl group, a C_{1-6} alkylsulfonylamino group, a C_{1-6} alkylsulfonylaminoalkyl group, a cyano group, or a C_{1-6} alkyl group optionally having a substituent selected from the group α; or R_3' and R_3 or R_2 together form a C_{1-3} alkylene group or an oxy-C_{1-3} alkylene group;

R_4 represents a hydrogen atom, a halogen atom, a C_{1-6} alkyl group optionally having a hydroxyl group, a halogeno-C_{1-6} alkyl group, a C_{1-6} alkyloxy-C_{1-6} alkyl group, a C_{1-6} alkylcarbonyl group, a cyano group, a formyl group, a C_{1-6} alkyloxycarbonyl group, a C_{1-6} alkylcarbonylamino group, a C_{1-6} alkylcarbonyl-C_{1-6} alkylamino group or a C_{1-6} alkylsulfonyl group; or when Z is -$C(R_7)$-, then R_4 and R_7 together form -$C(R_8)(R_8')$-O-, -$C(R_8)(R_8')$-CO-, -$C(R_8)(R_8')$-$C(R_8)(R_8')$-, -O-CO-, -CO-O-, -CO-$C(R_8)(R_8')$-, -O-$C(R_8)(R_8')$-, -$CH(R_8)$-$N(R_9)$- or -$N(R_9)$-$CH(R_8)$-;

R_5 represents a hydrogen atom, a hydroxyl group, a fluorine atom, a chlorine atom, a C_{1-6} alkyl group, a C_{1-6} alkylamino group, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkylcarbonylamino group, a C_{1-6} alkylcarbonyl-(C_{1-6})alkylamino group, or a cyano group;

R_6 represents a hydrogen atom, a halogen atom, a C_{1-6} alkyl group optionally having a hydroxyl group, a halogeno-C_{1-6} alkyl group, a C_{1-6} alkyloxy-C_{1-6} alkyl group, a C_{1-6} alkylcarbonyl group, a cyano group, a formyl group, a C_{1-6} alkyloxycarbonyl group, a C_{1-6} alkylcarbonylamino group, a C_{1-6} alkylcarbonyl-C_{1-6} alkylamino group, or a C_{1-6} alkylsulfonyl group;

R_7 represents a hydrogen atom, a halogen atom, a cyano group, a C_{1-6} alkyl group, a C_{1-6} alkyloxy group; or R_7 and R_4 together form -$C(R_8)(R_8')$-O-, -$C(R_8)(R_8')$-CO-, -$C(R_8)(R_8')$-$C(R_8)(R_8')$-, -O-CO-, -CO-O-, -CO-$C(R_8)(R_8')$-, -O-$C(R_8)(R_8')$-, -$CH(R_8)$-$N(R_9)$- or -$CH(R_8)$-$N(R_9)$-;

R_8 and R_8' each independently represent a hydrogen atom, a hydroxyl group, a C_{1-6} alkyl group optionally having a hydroxyl group, or a C_{1-6} alkylsulfonyl group;

R_9 represents a hydrogen atom, a C_{1-6} alkyl group, a C_{1-6} alkylsulfonyl group, a C_{1-6} alkyloxycarbonyl group, or a formyl group;

Ra represents a hydrogen atom, a C_{1-6} alkyl group, a C_{1-6} alkyloxycarbonyl group, a carbamoyl group, a (C_{1-6} alkyl)carbamoyl group, a di(C_{1-6} alkyl)carbamoyl group, a C_{1-6} alkylsulfonyl group, a pyrazolyl group, a triazolyl group, or an oxazolyl group;

X represents $-CH_2-$, -CH(OH)-, -N(Ra)-, -O-, -S- or $-SO_2-$;

Y represents $-CH_2-$ or -N(Ra)-;

Z represents $-C(R_7)-$ or -N-;

n indicates an integer of 0 or 1;

group α is selected from the group consisting of: a halogen atom, a hydroxyl group, a C_{1-6} alkylcarbonyl group, a C_{1-6} alkylcarbonyloxy group, a C_{1-6} alkylcarbonylamino group, a C_{1-6} alkylcarbonyl-C_{1-6} alkylamino group, a C_{1-6} alkyloxy group, a C_{1-6} alkyloxycarbonyl group, a C_{1-6} alkyloxycarbonylamino group, a C_{1-6} alkyloxycarbonyl-C_{1-6} alkylamino group, a C_{1-6} alkylamino group, a di-C_{1-6} alkylamino group, a sulfamoyl group, a C_{1-6} alkylsulfamoyl group, a di-C_{1-6} alkylsulfamoyl group, a sulfamoylamino group, a C_{1-6} alkylsulfamoylamino group, a di-C_{1-6} alkylsulfamoylamino group, a C_{1-6} alkylsulfamoyl-C_{1-6} alkylamino group, a di-C_{1-6} alkylsulfamoyl-C_{1-6} alkylamino group, a sulfamoyloxy group, a C_{1-6} alkylsulfamoyloxy group, a di- C_{1-6} alkylsulfamoyloxy group, a carbamoyl group, a C_{1-6} alkylcarbamoyl group, a di-C_{1-6} alkylcarbamoyl group, a carbamoylamino group, a C_{1-6} alkylcarbamoylamino group, a di-C_{1-6} alkylcarbamoylamino group, a C_{1-6} alkylcarbamoyl-C_{1-6} alkylamino group, a di-C_{1-6} alkylcarbamoyl-C_{1-6} alkylamino group, a carbamoyloxy group, a C_{1-6} alkylcarbamoyloxy group, a di-C_{1-6} alkylcarbamoyloxy group, a C_{1-6} alkylsulfonyl group, a C_{1-6} alkylsulfonylamino group, and a C_{1-6} alkylsulfonyloxy group; or a pharmaceutically acceptable salt thereof.

30. (New) The compound of Claim 29 wherein A^4 is -N-, A^1 is $-C(R_5)-$, A^2 is $-C(R_5)-$ and A^3 is $-C(R_5)-$.

31. (New) The compound of Claim 29 wherein A^5 is -$C(R_6)$-, A^6 is -$C(R_6)$- A^7 is -$C(R_6)$- and A^8 is -$C(R_6)$-.

32. (New) The compound of Claim 29 wherein A^7 is -N-, A^5 is -$C(R_6)$-, A^6 is -$C(R_6)$-, and A^8 is -$C(R_6)$-.

33. (New) The compound of Claim 29 wherein R_6 is selected from a hydrogen atom, a fluorine atom, a chlorine atom, a methyl group, an ethyl group, an isopropyl group, a trifluoromethyl group, a methylcarbonyl group, a methoxymethyl group, a formyl group and a cyano group.

34. (New) The compound of Claim 29 wherein R_1 and R_1' are selected from a hydrogen atom, a hydroxyl group, a methyl group, a methoxy group, a methylsulfonylamino group and a methylcarbonylamino group.

35. (New) The compound of Claim 29 wherein R_1 and R_1' together form an oxo group or an ethylene-ketal group.

36. (New) The compound of Claim 29 wherein R_2 and R_2' are both hydrogen atoms.

37. (New) The compound of Claim 29 wherein R_2 and R_2' together form -CH_2CH_2-.

38. (New) The compound of Claim 29 wherein R_3 and R_3' are selected from a hydrogen atom, a hydroxyl group, a fluorine atom, a methoxy group, a methyl group, a hydroxymethyl group, a fluoromethyl group, a methanesulfonylaminomethyl group, a methanesulfonylmethylaminomethyl group, a methoxycarbonylaminomethyl group and a dimethylsulfamoylaminomethyl group.

39. (New) The compound of Claim 29 wherein R_4 is selected from a hydrogen atom, a fluorine atom, a chlorine atom, a methyl group, an ethyl group, a cyano group, a formyl group and a trifluoromethyl group.

40. (New) The compound of Claim 29 wherein R_4 and R_7 together form -CH_2-O-, -$CH(CH_3)$-O-, -$C(CH_3)_2$-O- or -$N(CH_3)$-CH_2-.

41. (New) The compound of Claim 29 wherein Z is -$C(R_7)$-, and R_7 is selected from a hydrogen atom, a fluorine atom and a methyl group.

42. (New) The compound of Claim 29 wherein X is -CH_2-, -O- or -$N(CH_3)$-.

43. (New) The compound of Claim 29 wherein n is 0.

44. (New) The compound of Claim 29 wherein n is 1 and Y is $-CH_2-$.

45. (New) A compound which is selected from the group consisting of:

(7R,9S)-7-(spiro[8-aza-biycyclo[3.2.1]octa-3,1'(3'H)-isobenzofuran]-8-ylmethyl)-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(6R,8S)-6-(spiro[isobenzofuran-1-(3H),4'-piperidin]-1'-ylmethyl)-5,6,7,8-tetrahydroquinolin-8-ol);

(7R,9S)-7-[(3R*,4R*)-3-hydroxy-4-o-tolyl-piperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(7R,9S)-7-[(3R*,4R*)-(4-fluoro-o-tolyl)-3-hydroxypiperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(7R,9S)-7-(6'-aza-5'-fluoro-spiro[8-aza-bicyclo[3.2.1]-octa-3,1'(3'H)-isobenzofuran]-8-ylmethyl)-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(6R,8S)-6-(3,3-dimethyl-spiro[isobenzofuran-1(3H),4'-piperidin-1'-ylmethyl)-5,6,7,8-tetrahydro-quinolin-8-ol;

(7R,9S)-7-(1-methylspiro-[2,3-dihydro-1H-indol-3,4'-piperidin]-1'-ylmethyl)-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(6R,8S)-6-[4-(2-chlorophenyl)-4-fluoropiperidin-1-ylmethyl]-5,6,7,8-tetrahydroquinolin-8-ol;

(7R,9S)-7-[(3R*,4R*)-4-(2-chlorophenyl)-3-hydroxypiperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(7R,9S)-7-[(3R,4R)-4-(2-chloro-4-fluorophenyl)-3-hydroxypiperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(6R,8S)-6-[(3R,4R)-4-(2-chloro-4-fluorophenyl)-3-hydroxypiperidin-1-ylmethyl]-5,6,7,8-tetrahydroquinolin-8-ol;

(7R,9S)-7-[(3R*,4S*)-3-hydroxymethyl-4-phenyl-piperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(7R,9S)-7-[(3R*,4S*)-3-methyl-4-phenylpiperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

N-{(7R,9S)-7-[(3R,4R)-4-(2-chloro-4-fluorophenyl)-3-hydroxypiperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-yl}methanesulfonamide;

(6R,8S)-6-[(5'-fluoro-3',3'-dimethyl-3'H-6'-azaspiro[8-azabicyclo[3.2.1]octane-3,1'-isobenzofuran]-8-yl)methyl]-5,6,7,8-tetrahydroquinolin-8-ol; and

(6R,8S)-6-[(1S*,2R*,3R*)-3-(2-chloro-4-fluorophenyl)-2-hydroxy-8-azabicyclo[3.2.1]octan-8-ylmethyl]-5,6,7,8-tetrahydroquinolin-8-ol;
or a pharmaceutically acceptable salt thereof.

46. (New) A compound which is selected from the group consisting of:

(7R,9S)-7-[(3R*,4R*)-3-hydroxy-4-o-tolyl-piperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(7R,9S)-7-[(3R*,4R*)-(4-fluoro-o-tolyl)-3-hydroxypiperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

(7R,9S)-7-(6'-aza-5'-fluoro-spiro[8-aza-bicyclo[3.2.1]-octa-3,1'(3'H)-isobenzofuran]-8-ylmethyl)-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

7R,9S)-7-[(3R*,4R*)-4-(2-chlorophenyl)-3-hydroxypiperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-ol;

6R,8S)-6-[(3R,4R)-4-(2-chloro-4-fluorophenyl)-3-hydroxypiperidin-1-ylmethyl]-5,6,7,8-tetrahydroquinolin-8-ol;

N-{(7R,9S)-7-[(3R,4R)-4-(2-chloro-4-fluorophenyl)-3-hydroxypiperidin-1-ylmethyl]-6,7,8,9-tetrahydro-5H-cyclohepta[b]pyridin-9-yl}methanesulfonamide;

(6R,8S)-6-[(5'-fluoro-3',3'-dimethyl-3'H-6'-azaspiro[8-azabicyclo[3.2.1]octane-3,1'-isobenzofuran]-8-yl)methyl]-5,6,7,8-tetrahydroquinolin-8-ol;

(6R,8S)-6-[(1S*,2R*,3R*)-3-(2-chloro-4-fluorophenyl)-2-hydroxy-8-azabicyclo[3.2.1]octan-8-ylmethyl]-5,6,7,8-tetrahydroquinolin-8-ol;
or a pharmaceutically acceptable salt thereof.

47. (New) A pharmaceutical composition which comprises an inert carrier and a compound of Claim 20, or a pharmaceutically acceptable salt thereof.

48. (New) A method for treating a disease or disorder selected from the group consisting of: pain; tolerance to a narcotic analgesic; dependence on or addiction to a narcotic analgesic; obesity; impaired cognition; dementia or amnesia; cerebrovascular disease; Alzheimer's disease; attention deficit hyperactivity disorder; learning disability; schizophrenia; neurodegenerative diseases; Parkinsonism; chorea; depression; affective disorder; diabetes insipidus; polyuria; and hypotension, in a mammalian patient in need thereof which comprises administering to the patient a therapeutically effective amount of the compound of Claim 20, or a pharmaceutically acceptable salt thereof.